

REMARKS

The foregoing amendment does not include the introduction of new matter into the present application for invention. Therefore, the Applicant, respectfully, requests that the above amendment be entered in and that the claims to the present application be, kindly, reconsidered.

The Office Action dated March 24, 2003 has been received and considered by the Applicant. Claims 1 through 4 are pending in the present application for invention. Claims 1-4 are rejected under the provisions of 35 USC § 102(b) as being anticipated by U.S. Patent No. 6,198,466 to Morich et al (hereinafter referred to as "Morich"). "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). Under the principles of inherency, the prior art must function in accordance with the claimed limitations in order to anticipate. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

Claims 1 and 2 have been amended to correct formal matters. Claims 2-4 depend from claim 1 and further narrowing claim 1, therefore, claims 2-4 are believed the allowable. New claims 5-8 have been added, these newly added claims are believed the allowable for the reasons discussed above.

The Examiner states that all the elements in the claims are disclosed within column 2 of Morich, including the voltage divider means recited by the claims. Applicants respectfully point out that the voltage divider means is responsive to the first and second fixed voltages for providing one of two selectable voltages for each column and one of two selectable voltages for each row. The specific area of column 2 of Morich that the Examiner asserts discloses the recited voltage divider means of the present invention, is the row driver circuit described on column 2, lines 32-36 and the column driver circuit discussed on column 2, lines 41-43. However, neither the row driver circuits nor the capacitor circuit 200 respond to first and second fixed voltages.

Claim 1 calls for a voltage divider means that is responsive to first and second fixed voltages. In Morich the driver circuit 90 and its capacitor circuit 200 do not respond to first and second fixed voltages. In contrast, the divider means 200 receives a time varying output from the coil 18L and stores charge until the capacitors are at a desired absolute voltage level. In effect, the circuit 90 generates charges that are accumulated by the capacitors until the charge can alter the state of the pixels in the

display. However, during the time the capacitors are accumulating charge, their voltage level is changing. The capacitors do not receive or respond to first and second fixed voltages – not do they generate first or second fixed voltage. Note the circuit 216 is a sensing circuit that monitors the output of the coil until the capacitors have the desired absolute voltage level.

The Applicants also point out that a row driver circuit or a column driver circuit is not a voltage divider. Furthermore, the discussion within column 2 of Morich referenced by the Examiner clearly describes the voltage multiplier as providing three different voltages, two to each of the row and column driver circuits. The row and column driver circuits select which of the voltages are supplied by the voltage multiplier, which are then applied to the rows or columns. The claims to present invention, clearly recite a "voltage divider means responsive to the first and second fixed voltages for providing one of two selectable voltages."

The Morich reference does not provide first and second fixed voltage and has no means for switching between two such voltages. Consider the portion of the reference relied upon in column 2, lines 7-11. The reference discloses no more than providing an absolute value voltage to the pixels. That absolute voltage is no more than a threshold level and is not, per se, a fixed voltage. In Morich, the absolute voltage is reached by using a coil to charge one or more capacitors. That creates a time varying voltage as the capacitors charge and discharge. In contrast, the invention uses fixed (direct current) voltages such as 90 volts and ground for V_{SC} . Both are fixed and do not vary.

Another difference between Morich and the claims is that the voltage multiplier of Morich supplies the exact voltages that are applied to the individual rows and columns by the row and column driver circuits. The present invention, in contradistinction to the disclosure of Morich, provides a unipolar field having a fixed high-voltage and a reference voltage (typically ground), the means for selecting one of the fixed voltages and then voltage dividing the selected voltage to arrive at the desired voltage for the row or column. Therefore Morich does not disclose every limitation of the claimed invention, either explicitly or inherently.

Claim 3 is patentable over the art of record because it fails to show or suggest the resistor voltage divide. FIG. 8 of Morich does not show a resistor divider that meets the limitations of claim 3. The elements 204, 205, 206 and 208 are capacitors,

not resistors. The only voltage divider shown in FIG. 8 appears at the emitter of the transistor in circuit 216. That voltage divider does not meet the limitations of independent claim 3 because it does not respond to first and second fixed voltages.

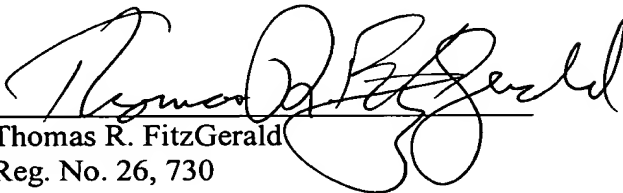
Claim 4 is patentable over Morich because it fails to show or suggest means responsive to an input signal for selecting diodes to provide appropriate voltages at selected pixels. Nowhere does Morich show any diode or selection of diodes in selecting diodes for applying voltages to the pixels. The controller 80 in Morich may control operation in the reference, but it has no disclosure for selecting diodes in response to an input signal to control voltages applied to pixels. Morich does not inherently function in the manner of the present invention as recited by the claims because Morich does not create the necessary voltages to drive the rows and columns of a cholesteric liquid crystal display after selection as required by the claims to the present invention. The present invention, as recited by the claims, provides a simpler and more economical solution for applying the necessary voltages to the rows and columns for driving a cholesteric liquid crystal display. The disclosure of Morich requires all the parts shown in FIG. 8 to create the voltage multiplier. Moreover, the disclosure of Morich requires all the parts shown in FIG. 9 simply to drive a single column (see column 14, lines 1-12). The present invention supplies the fixed voltages that are necessary to drive the rows and columns of a cholesteric liquid crystal display using only the pieces shown in FIG. 12. The present invention uses push-pull outputs (see page 10, line 29) to switch between fixed high-voltage and ground. The simple application of two resistors between the push-pull outputs and the row and column terminals creates the voltages in the desired range to be applied to the terminals of the rows and columns. The solution provided by the present invention, clearly, is easier and less expensive to implement than the solution taught by Morich. Moreover, the voltage drivers and the selection circuits of the present invention can be provided within a single chip solution, resulting in additional savings both in terms of overall cost as well as circuit board real estate. Accordingly, this rejection is, respectfully, traversed.

The applicant would like to, respectfully, indicate that there is no suggestion to modify the teachings of Morich to arrive at the claimed invention. In order to sustain a rejection based on obviousness under the provisions of 35 U.S.C. § 103, it must be demonstrated that the differences between the claimed invention and the prior art are such that the subject matter as a whole would

have been obvious at the time the invention was made to a person having ordinary skill in the art. The disclosure of Morich is a relatively recent disclosure. If the configuration that is recited by the claims to the present invention would have been obvious to a person skilled within the art, clearly Morich would have made some mention of the potential to modify the disclosure of Morich to arrive at the present invention, in order to create a more economical system and a system requires less space. However, there is no suggestion or motivation supplied by the cited references to create a system that supplies the necessary fixed voltages to the rows and columns for driving a cholesteric liquid crystal display in a manner recited by claims to the present invention. Accordingly, the claims to present invention of believed to be allowable over the cited reference, Morich.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,



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